

CLAIMS

1. A method for producing a lymphocyte or antigen presenting cell (APC) having tolerance to an allergen or antigen which method comprises incubating a lymphocyte or APC obtained from a human or animal patient with (i) a composition capable of upregulating expression of an endogenous Notch or Notch ligand in the lymphocyte and/or APC and (ii) the allergen or antigen.

2. A method according to claim 1 wherein the method comprises incubating a lymphocyte or APC obtained from a human or animal patient with an APC in presence of (i) a composition capable of upregulating expression of an endogenous Notch or Notch ligand in the lymphocyte and/or APC and (ii) the allergen or antigen.

3. A method according to claim 1 for producing an APC capable of inducing in a T cell tolerance to an allergen or antigen which method comprises contacting an APC with (i) a composition capable of upregulating expression of an endogenous Notch or Notch ligand in the APC and (ii) the allergen or antigen.

4. A method according to claim 1 or claim 2 for producing *ex vivo* a T cell having tolerance to an allergen or antigen which method comprises incubating a T cell obtained from a human or animal patient with an antigen presenting cell (APC) in the presence of (i) a composition capable of upregulating expression of an endogenous Notch or Notch ligand in the APC and/or T cell and (ii) the allergen or antigen.

5. A method according to any one of claims 1 to 4 wherein the composition comprises a substance capable of upregulating expression of Notch or a Notch ligand selected from polypeptides and fragments thereof, linear peptides, cyclic peptides, synthetic and natural compounds including low molecular weight organic or inorganic compounds.

6. A method according to any one of claims 1 to 5 wherein the composition comprises a polypeptide selected from Noggin, Chordin, Follistatin, Xnr3, FGF and derivatives, fragments, variants and homologues thereof, and immunosuppressive cytokines, or a combination thereof.

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7. A method according to claim 6 wherein the immunosuppressive cytokine is selected from IL-4, IL-10, IL-13, TGF- β and FLT3 ligand.

8. A method according to any one of the preceding claims wherein the Notch ligand is selected from Serrate, Delta and homologues thereof.

9. A method according to any one of the preceding claims wherein the APC is a dendritic cell.

10. A method for producing a lymphocyte or APC having tolerance to an allergen or antigen which method comprises incubating a lymphocyte or APC obtained from a human or animal patient with a lymphocyte or APC produced by the method of any one of the preceding claims.

11. A method according to claim 9 for producing *ex vivo* a T cell having tolerance to an allergen or antigen which method comprises incubating a T cell obtained from a human or animal patient with a T cell produced by the method of any one of the preceding claims.

12. Use of a lymphocyte or APC produced by the method of any one of the preceding claims in suppressing an immune response in a mammal to the allergen or antigen.

13. Use of a composition capable of upregulating expression of an endogenous Notch or Notch ligand in an APC or lymphocyte in a method of producing regulatory lymphocytes capable of suppressing the activity of other lymphocytes.

14. Use according to claim 13 wherein the composition is as defined in any one of claims 5 to 7.

15. Use according to claim 13 or 14 wherein the Notch ligand is selected from Serrate, Delta and homologues thereof.

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16. Use according to any one of claims 13 to 15 wherein the APC is a dendritic cell.
17. A method of treating a patient suffering from a disease characterised by inappropriate lymphocyte activity which method comprises administering to the patient a lymphocyte produced by the method of any one of claims 1 to 9.
18. A method for producing a lymphocyte having tolerance to an allergen or antigen which method comprises incubating an APC produced by the method of claim 3 with the lymphocyte.

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